

IMANALIYEVA, N.A.

X-ray diffraction study of distortions of the crystalline  
structure of brass induced by friction. Izv. AN Kir. SSR.  
Ser. est. i tekhn. nauk 3 no.1:83-90 '61. (MIR 14:7)  
(X rays--Diffraction) (Brass--Testing) (Friction)

IMANALIYEVA, N.A.

X-ray diffraction study of brand U10A steel subjected to  
mechanical wear. Izv. AN Kir. SSR. Ser. est. i tekhn. nauk 3  
no.1:91-96 '61. (MIRA 14:?)  
(X rays--Diffraction) (Steel--Testing) (Mechanical wear)

IMANALIYEVА, N.A.; TERMINASOV, Yu.S.

X-ray diffraction study of U10A steel subjected to wear. Trudy  
LIEI no.29:46-50 [i.e. 39] '62. (MIRA 16:6)  
(X-ray diffraction examination) (Steel--Testing)

IMANALIYEVA, N.A.; TERMINASOV, Yu.S.

X-ray diffraction study of distortions of the crystalline  
structure of brass due to friction. Trudy LIET no.29:56-60  
[i.e. 39] '62. (MIRA 16:6)  
(X-ray diffraction examination) (Dislocations in metals)  
(Brass--Testing)

*Krupnov, A.K. Imanayev, N.G.*

KRUPNOV, A.K.; IMANAYEV, N.G.

Excluding bottom waters through hydraulic fracturing of strata in  
the fields of the Tuymazy Petroleum Trust. Neft, khoz. 35 no.11:  
55-58 N '57. (MIRA 10:11)  
(Tuymazy region--Oil well cementing)

92-58-5-8/30

AUTHOR: Imanayev, N. G., Senior Geologist

TITLE: Our Methods of Shutting Off Bottom Waters (Nashi metody izolyatsii podosivennykh vod)

PERIODICAL: Neftyanik, 1958, Nr 5, pp 8-10 (USSR)

ABSTRACT: The author states that a large quantity of water accompanies the petroleum which is extracted from the Tuymazy oil fields, and the percentage of water is steadily rising. However, the main cause of this situation is the new advanced method of flooding productive formation boundaries, which is applied to boost the output of oil wells. Bottom water and injected water may infiltrate into the bore-hole if its plugging is unsatisfactory. To combat this water infiltration, special oil well maintenance teams were created at the Tuymazy oil fields. However, for many years their efforts to prevent the penetration of water into oil wells were in vain. Later, between 1955 and 1957, a new efficient method of creating an artificial waterproof shield to prevent water infiltration was developed and applied. It consists of fracturing the formation hydraulically and

Card 1/2

92-58-5-8/30

Our Methods of Shutting (Cont.)

of injecting a viscous mixture (Devonian crude with mazout) and cement slurry into the resulting fissure. In 1957 this method produced very good results. For instance, of 10 wells which were treated as described, 8 have shown that bottom water were shut off entirely or almost entirely without affecting the output of oil. The results produced by applying this new method are shown in 2 graphs (Fig. 1 and Fig. 2) and in 2 tables.

ASSOCIATION: NPU Tuymazaneft'

1. Drilling operations--USSR 2. Water--Control systems

Card 2/2

Nov/93..58-7-8/17

AUTHOR: Zolotyev, T.M. and Imanayev, N.G.

TITLE: Quality of Oil Well Plugs and Methods for Testing and Improving the Tightness of Cement Collars at the Lower End of Casing Columns [ O kachestve tampouazha skvazhin i metodakh proverki i ispravleniya negermeticheskogo tsementnogo kol'tsa za kolonnou ]

PERIODICAL: Neftyanoye khozyaystvo, 1958, ^Nr 7, pp. 38-44 (USSR)

ABSTRACT: The article states that leaky cement collars at the lower end of casing columns, poor quality of cement, and the off-center position of some casing columns (Fig. 1) lead to premature flooding of wells at the Tuymazy oilfield. The authors made a study of flooded wells and presented the experimental data in Table 1. The quality of plugging cement employed is presented in Table 2. The cement plugs were tested by pumping activated fluid into the well according to a method proposed by MNII im. akad. I.M. Gubkina (MNII im. acad. I.M. Gubkina). It was determined that when the cement plugs were of good quality the radioactive isotopes penetrated only the perforated interval (Fig.2). When the cement plugs were defective the radioactive isotopes penetrated up to the lower water-bearing horizon or to the water-bearing sector in the uniform layer (Fig.3). The quality of defective plugs was improved by pumping cement slurry into the filter of the column by means of a hydraulic press according to the method of V.D. Malevanskiy (Ref.2). Fig. 4 shows the good results obtained by this method as well as by using the fine cements of UfNII (Ref.3). The injection of cement into the layers with the aid of hydraulic fracturing was carried out according

Card 1/2

Sov/93-58-7-8/17

## Quality of Oil Well Plugs and Methods (Cont.)

to the method described by A.K. Krugnov and N.G. Imanayev in their article "Blocking of Bottom Water at the Tuymazaneft' Oilfields by Hydraulic Fracturing of the Formation" (Izolyatsiya podoshvennykh vod s primeneniem gidrorazryva plasta na promyslakh Tuymazanefti), published in Neftyanoye khozyaystvo, 1957, Nr 11. The good results obtained with this method are shown in Figs. 5 and 6. Use was also made of the VNII method requiring injections of urea-formaldehyde resin into the formation. The authors point out that defective cement plugs produce oil of high water content (Fig. 7), and they make seven suggestions on how to eliminate the premature flooding of wells. There are 7 figures, 2 tables, and 4 Soviet references.

Card 2/2 1. Petroleum--Production

KRAVCHENKO, Ivan Ivanovich; IMANAYEV, Nikolay Gavrilovich; LATUKHINA,  
Ye.I., vedushchiy red.; SOTOMONOVICH, S.M., tekhn.red.

[Exclusion of waters in oil wells] Izolatsiya vod v neftianykh  
ekvazhinakh. Moskva, Gos.sauchno-tekhn.izd-vp neft. i gorno-  
toplivnoi lit-ry, 1960. 187 p.  
(oil field brines) (MIRA 13:3)

IMANAYEV, H.G.; KRUPHOV, A.K.

Interval multiple fracturing using balls as temporary sealing  
agents; fracturing practices in the Tuymazy Petroleum Trust.  
Neft. khoz. 38 no.10:8-14 0 '60. (MIRA 13:9)  
(Tuymazy region--Oil wells--Hydraulic fracturing)

DMANAYEV, N.G.

Using the layer-by-layer method for flooding oil. Neft. khoz,  
40 no.4:67-70 Ap '62. (MIRA 15:5)  
(Volga-Ural region--Oil field flooding)

IMANAYEV, N.G.; GOMBINER, B.Ya.; KRAVCHENKO, I.I.; BLAZHEVITCH, V.A.;  
MARKOV, V.P.; SATTAROV, M.M.; GIL'MANCHIN, I.O.; ASHIROV, E.B.;  
BOBELYUK, V.P.; ROMANYUK, F.I.

Comments on the article by M.L. Surguchov "Exclusion of reservoir  
waters", Neft.khoz., No.11, 1962. Neft.khoz. 41 no.8:38-57 Ag '63.

Present status of and prospects for the construction of steel  
tanks in the U.S.S.R. Ibid.:58-62

1. Neftepromyslovoye upravleniye Tuymazaneft' (for Imayev,  
Gombiner). 2. Ufimskiy neftyanoy nauchno-issledovatel'skiy  
institut (for Kravchenko, Blazhevitch). 3. Neftepromyslovoye  
upravleniye Chernomorneft' (for Markov). 4. Neftepromyslovoye  
upravleniye Arlanneft' (for Sattarov, Gil'manchin). 5. Gosudar-  
stvennyy institut po proyektirovaniyu i issledovatel'skim  
rabotam neftedobyvayushchey promyshlennosti vostochnykh rayonov  
strany (for Ashirov). 6. Vsesoyuznyy neftegazovyy nauchno-  
issledovatel'skiy institut (for Bobelyuk, Romanyuk).

(MIRA 17:10)

ZOLOYEV, T.M.; IMANAYEV, N.G.; KOBELEVA, V.A.; YAKUPOV, F.M.

Development of the Apsalyamovo water cut petroleum area of  
the Tuymazy field. Neft. khoz. 42 no. 3:21-26 Mr '64.  
(MIRA 17:7)

KISLYAKOV, Yu.P.; IZHAKOV, N.G.

Transfer of flooded wells to subjacent oil-bearing horizons.  
Nefteprom. delo no.9:3-5 '64. (MIRA 17:10)

1. Neftepromyslovoye upravleniye "Tuymazaneft".

IMANAYEVA, R. SH.

IMANAYEVA, R. SH.- "Climatic Characteristic of Warm and Cold Winters in Tataria."  
Min of Higher Education USSR, Kazan State U imeni V. I. Ul'yanov-Lenin, Kazan, 1955  
(Dissertations for the Degree of Candidate of Geographical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

IMANAYEV, R.Sh., kand.geograf.nauk

Spring in Tatarstan. Priroda 50 no.4:126 Ap '61. (MIRA 14:4)

1. Kazanskiy gosudarstvennyy universitet.  
(Tatar A.S.S.R.—Spring)

IMANAYEVA, R.Sh., kand.geograf.nauk

Warm winter in the Tatar A.S.S.R. Priroda 51 no.1:125 Ja '62.  
(MIRA 15:1)

1. Kozanskiy gosudarstvennyy universitet im. V.I.Ulyanova-Lenina.  
(Tatar A.S.S.R.--Winter)

IMANAYEVA, R.Sh., kandid. biolog.nauk (Kazan')

A dry and warm October. Priroda 51 no.10:127 '62.  
(MIRA 15:10)  
(Volga Valley—Weather)

IMANBAKIYEV, K.Yu., aspirant

Swedish fly on wheat. Zashch. rast. ot vred. i bol. 9 no. 9:42 '64.  
(MIRA 17:11)

1. Kazakhskiy institut zashchity rasteniy, Kargalimka.

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4

IMANBAYEV, Sh.R.; BALGOZHIN, Sh.O., kand.tekhn.nauk

Efficiency of using the Shch-54 powered movable support. Sbor.  
nauch. trud. Kaz OMI no.19:121-131 '60. (MIRA 15:3)  
(Mine timbering)

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4"

IMANBEKOV, -Amantur; MURATALIYEV, B.T., kand.ekonom. inkul, otr. red.;  
KOVAL'CHUK, V.V., red. izd-va; ANOKHINA, N.G., tekhn. red.

[Problems of strengthening business accounting at the enterprises  
of light industry in Kirghizia] Voprosy ukreplenia khozrascheta na  
predpriatiakh legkoi promyshlennosti Kirgizii. Frunse, Izd-vo  
AN Kirgizskoi SSR, 1961, 70 p. (MIRA 14:11)  
(Kirghizistan-Manufactures-Finance)

IMANGALIYEV, A., gornyy inzh.; ASATOV, S.K., gornyy inzh.

Variation in the chamber-pillar method using strip-mining type  
equipment. Gor. zhur. no.4:26-30 Ap '61. (MIRA 14:4)

1. Skakhta No.51 Dzhezkazganskogo rudnika.  
(Mining engineering)

IMANGALIYEV, A.

Industrial testing of pyrotechnic relays in the Dzhezkazgan  
Mine. Gor. zhur. no.1:46-47 Ja '62. (MIRA 15:7)

1. Dzhezkazganskiy gorno-metallurgicheskiy kombinat.  
(Dzhezkazgan District—Blasting—Electric equipment)

IMANCALLIYEV, A.

New variations in the chamber-and-pillar system in the Dzhekskazgan  
Mine. Gor.zhur. no.4, ill.15 Ap '62. (MIRA 15:4)

1. Nachal'nik uchastka novoy tekhniki shakhty №.51 Dzhekskazgan.  
skogo rudoupravleniya.  
(Dzhekskazgan District--Mining engineering)

IMANGAZIYEV, K.

Academician D.N.Prianishnikov as the founder of Soviet  
agrochemistry. Vest. AN Kazakh. SSR 21 no.11:85-90 N '65.  
(MIRA 18:12)

1. Chlen-korrespondent AN Kazakhskoy SSR.

C. A. MANGAZIEV, K.

The immediate and residual effect of Karatau phosphorite on the yield of different crops under conditions of Southern Kazakhstan. *Zemledelstvo Kazakh SSR*, No. 7, 23-38 (1951).  
Pot and field expts. show that sugar beets, spring wheat, rice, legumes, and grasses respond to phosphorite applications, especially in the presence of K and N salts. A double dose of phosphorite (180 kg./ha. of  $P_2O_5$ ) compares favorably with a single dose (90 kg./ha. of  $P_2O_5$ ) of superphosphate.  
The soils used were chestnut brown and gray-semidesert.

J. S. Jaffe

IMANGAZIYEV, Kenkes Imangaziyevich (Kenasse MTS in the Dzhambul'skaya Oblast, Kazakh SSR), Academic degree of Doctor of Agricultural Sci, based on his defense, 24 November 1954, in the Council of Soil Inst imeni Dokuchayev, Acad Sci USSR, of his dissertation entitled: "Fertilization system of beet crop rotation in the irrigated zone of the Kazakh SSR." For the Academic Degree of Doctor of Sciences.

SO: Byulleten' Ministerstva Vysshego Obrazovaniya SSSR, List No, 6, 17 March 1956,  
Decision of Higher Certification Commission Concerning Academic Degrees and  
Titles.

JPPS 512

IMANGAZIYEV, Kenzhe Imangaziyevich, doktor sel'skokhozyaystvennykh nauk;  
DANILOV, A.N., spets. redaktor; SAVICH, M.P., redaktor; ZLOBIN,  
M.V., tekhnicheskiy redaktor

[System of fertilizing in a crop rotation system including beets  
on irrigated land] Sistema udobreniya rastenii svaklovochnogo  
sevooberota v oroshaemom zemledelii. Alma-Ata, Kazakhskoe gos.  
izd-vo, 1956. 294 p.

(Fertilizers and manures) (Sugar beets)

IMANGAZIYEV, K. I.

IMANGAZIYEV, K. I.

Nitrogen balance in soils of southern Kazakhstan and ways of its regulation [with summary in English]. Pochvovedenie no.7:38-46 Jl '57. (MIRA 10:11)

1. Institut pochvovedeniya Akademii nauk Kazakhskoy SSR.  
(Kazakhstan--Soils) (Nitrification)

IMANGAZIYEV, K.I.; AGISHEV, M. Kh.

Determining the resources of assimilable phosphates in soils by  
the use of the phosphorus isotope  $^{32}\text{P}$ . Vest. AN KazSSR, SSR 20  
no.12:15-24 D '64 (MIRA 18:2)

1. Chlen-korrespondent AN KazSSR (for Imangaziyev).

IMANGAZIYEV, F.T.

Present state of agrochemical research in Kazakhstan. Inst. AN Kazakh.  
SSR 21 no.5:13-23 My '65. (MIRA 18:7)

1. Chen-korrespondent AN KazSSR.

LYUBMAN, N.Ya.; SHOSTAK, F.T.; IMANGAZIYEV, G.K.

Membranes with a base of styrene-formaldehyde resins. Report No.1:  
Synthesis of styrene-formaldehyde resins. Izv. AN Kazakh. SSR. Ser.  
tekhn. i khim.nauk no.3:9-14 '64. (MIRA 17:2)

SHOSTAK, F.T., kand.tekh.nauk; LYUBMAN, N.Ya.; IMANOAZTSEVA, G.K.

Synthesis of oxygen-containing hydrocarbon-formaldehyde resins and their  
use as bridging agents. Vest. AN Kazakh.SSR 19 no.1D:27-32 O '63.  
(MIRA 17:1)

L 21340-62 242(1)/EWF(3)/T NO. 4 RHE/RHE

9. 12. 1971 (2) 645-100-17014 (2) 100-17014

ANNUAL EXPENSES OF THE POLICE DEPARTMENT FOR THE PAST FIVE YEARS.

10. The following table shows the number of hours worked by each employee.

1. The following table gives the number of hours worked by each of the 100 workers in a certain plant.

**Table 1.** Effect of Exchange of Methane on Membrane Mechanical Properties

W. H. Smith & Sons Ltd., London, 1903.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618530004-4"

~ 21340-63

ACCESSION NR: AT5001009

sorbed ionogenic groups; thus, sulfonation yields highly acidic monofunctional membranes. The electrical resistance decreases with increasing polystyrene concentration and increases with the amount of crosslinking agent used. The potential and polarization

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4

ACCESSION NO.: A-1404826

Q/0200/44/000/003/002144194

ANALYST: (S) C. J. T. (C)

LABORATORY: M. Z. Lyubimov M. V. Shchukin P. V.

PATC UNDER VARIOUS CONDITIONS

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4

predominant product is phenyl-1, 3-dioxane; at 40-50% H<sub>2</sub>SO<sub>4</sub> - the products are alkene.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4"

670001/64/000/011780174/8pm

Authors: Nyugyan, N. Ya., Khoslik, F. T., Urhangaizerova, G. K.

TITLE: Membranes based on styrene-formaldehyde resins. Report I. The synthesis

Card 1/2

reaction mixture at 60°C. Several samples were taken and analyzed by infrared and ultraviolet spectra. The index of refraction was 1.510 at 20°C. The yield of styrene was 46% and oxygen (46%) was obtained at a styrene:formaldehyde ratio of 1:4. The probable mechanism of the reaction between styrene and formaldehyde is:

SUB CODE: OC, MT

ENCL: 00

Card 2/2

L 21341-65 EWT(m)/EWP(j)/T Pg-4 BSD/SSD/APWL/APGC(b)/ESD(gs)/ERD(t)

RWH/EM

ACCESSION NR: AT5001011

8/28/80/64/011/000/0104/0107

AUTHOR: Lyubman, N.Ya., Agashkin, O.V., Kushnakov, Yu.A., Kartseva, I.I.,  
Shostak, F.T., Imangaziyeva, G.K.

371

TITLE: Membranes based on styrene-formaldehyde resins. Part 2. A study of the structure of styrene-formaldehyde resins by infrared spectroscopy

SOURCE: AN KazSSR. Institut khimicheskikh nauk. Trudy, v. 11, 1964. Sistem i issledovaniye vysokomolekulyarnykh soyedinenii (Synthesis and research of high-molecular compounds), 104-107

TOPIC TAGS: styrene formaldehyde resin, polystyrene membrane, infrared spectroscopy, polymer composition, styrene polymerisation

ABSTRACT: Styrene-formaldehyde resins were prepared by a method described in the first part of the paper (Izv. AN KazSSR, Seriya Khim. i Tekhn. Nauk (1963), #3), involving condensation in the presence of 45% sulfuric acid and when 0.81 to 3:1 molar ratios of formaldehyde to styrene; they were analyzed by infrared spectroscopy of the membranes or their solutions in carbon tetrachloride. The spectra shown in Fig. 1 of the Enclosure proved the absence of vinyl groups; thus, the reaction proceeds with the participation and

Cord 1/10

L 21341-65

ACCESSION NR: AT5001011

elimination of double bonds in the styrene chain. Oxygen is bonded into ether and acetal groups, and the length of the acetal chain increases with the feed concentration of formaldehyde. Aromatic rings do not form a part of the linear chain, whose terminals are formed by hydroxyl and methyl groups. Ketone groups are present, but the low intensity of the corresponding bands indicates a low concentration. Selected structures for the chain of styrene formaldehyde resins are proposed. Elemental composition, molecular weight, specific gravity, and refractive index of the studied specimens were determined and tabulated. Orig. art. has: 2 tables, 1 figure, and 4 formulas.

ASSOCIATION: Institut khimicheskikh nauk, Akademiya nauk Kazakh SSR (Institute of Chemical Sciences, Academy of Sciences of the Kazakh SSR)

SUBMITTED: 00

ENCL: 01

SUB CODE: MM

NO REF SOV: 002

OTHER: 000

Card

2/3

IMANCOLOV, R. G., LISTOVA, N. M. and ZAGRYADSKIY, R. G.

"The Gas Exchange and Energy Consumption of the Men in the Rifle Units Engaged in Tactical Exercises".

Vcjenno Meditsinskiy Zhurnal, No. 4, 1962

B GDANOV, N.A.; YEMEKOV, Ye.V.; IMARULOV, R.G.; LIKHACHEV, I.P.;  
SHELYAPIN, N.N.; STESHENKO, V.F., Red.

[Pathology, clinical aspects, and treatment in lesions  
from toxic chemical agents and radioactive substances]  
Patologii, klinika i terapiia pri porazheniiakh OV i RV.  
Leningrad, Meditsina, 1964. 188 p. (MIRA 18:2)

SEARCHED INDEXED SERIALIZED FILED BY R. C. Shupps [initials]

TITLE: Adsorption of barium on tungsten wires made iridescent

B

ABSTRACT: The investigations were made in instruments comprising diodes with cylindrical slotted anodes, as shown in Fig. 1 of the enclosure. A polished tungsten wire (grade VA-3) 11--12 cm long was stretched along the axis of the diode. The barium sources were molten in vessels filled with barium-beryllate powder. The initial

Card 1/4

perature and of the barium sputtering time are discussed. The values obtained for the work functions and the heats of adsorption of barium are 4.90 and 3.2 eV in the case of dc and 4.45 and 4.25 eV in the case of rf. This agrees with earlier data by one of the authors (Lekshmanov et al., metallicheskikh kristallov [Electron

src

2/4

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618530004-4

Card 3/4

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618530004-4"

9.3120

26.2012

26.2531

36883  
S/181/62/004/004/027/042  
B102/B104

AUTHORS: Sytaya, Ye. P., Smorodinova, M. I., and Imangulova, N. I.

TITLE: Electron and ion emission from the faces (110) and (100) of  
a big tungsten monocrystal

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1016-1020

TEXT: The authors measured the electron work function for the faces (110) and (100) of W single crystals by means of electron emission and surface ionization of Na and Ba atoms. The pressure in the tube in which the measurements were made was less than  $10^{-8}$  mm Hg, the samples were heated before measuring up to  $\sim 2800^{\circ}\text{K}$ . The work function was determined from the straight lines  $\log(I/T^2)+C = f(1/T)$  (Richardson law) with  $A_0 = 120 \text{ a/cm}^2 \cdot \text{deg}^2$  and  $D=1$ . The work functions obtained were:

$\psi_{(110)}^* = 5.30 \pm 0.06 \text{ ev}$  and  $\psi_{(100)}^* = 4.66 \pm 0.06 \text{ ev}$ . From the salient points of the temperature dependence of the electron emission the threshold temperatures of oxygen adsorption were determined. They were  $\sim 2100^{\circ}\text{K}$  for the (100) face and  $\sim 2000^{\circ}\text{K}$  for the (110) face. The lower

Card 173

Electron and ion emission from...

S/181/62/004/004/027/042  
B102/B104

ASSOCIATION: Tashkentskiy gosudarstvennyy universitet im. V. I. Lenina  
(Tashkent State University imeni V. I. Lenin)

SUBMITTED: July 20, 1961 (initially)  
December 19, 1961 (after revision)

Card 3/3

GAMOV, V.S.; GIRGOLAV, S.S., professor, nachal'nik; IMAMI, S., nachal'nik.

Surgical therapy of Echinococcus of the lungs. Vest.khir. '73 no.3:34-40  
My-Je '53. (MLRA 6:6)

1. Kafedra gospital'noy khirurgii Voyenno-meditsinskoy akademii imeni S.M.Kirova (for Gamov and Girgolav). 2. Gospital' [Voyenno-meditsinskoy akademii imeni S.M.Kirova] (for Gamov and Imami). (Lungs--Hydatida)

137-58-6-13333

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 311 (USSR)

AUTHOR: Imankulov, A.

TITLE: Investigation of Fatigue Phenomena in Coarse-grained Steel  
(Issledovaniye ustalosti krupnozernistoy stali)

PERIODICAL: Uch. zap. Fiz.-matem. fak. Kirg. un-t, 1957, Nr 4,  
part 1, pp 109-117

ABSTRACT: The mechanism of fatigue in coarse-grained steel of type St 40 was investigated by means of X-ray analysis and micro-hardness studies. A novel method is proposed for making X-ray photographs of standard specimens (S) employed in machines for fatigue testing whereby it is possible to obtain continuous interference lines (L) by rotating the S around its longitudinal axis which is situated perpendicularly with respect to the primary pencil of rays. Steel S's were investigated under Co-K $\alpha$  radiation which produced interference L's (310), (220), and (211) on the diffraction pattern. In order to increase the sensitivity and accuracy of the method, the intensity of L (310) was reduced by means of Al filters. The nature of changes in lattice distortions was determined with the aid of a graph showing

Card 1/2

137-58-6-13333

**Investigation of Fatigue Phenomena in Coarse-grained Steel**

the width and intensity of the L's as a function of the number of cycles. Harmonic analysis was employed as a means of separating out factors which affect the widening of the L's. Microhardness measurements were performed on an IMT-3 tester with automatic loading. The S's being tested were provided with a special stress concentrator: a "groove" produced by a steel cord which was pressed against the S undergoing fatigue tests with a force of 2 kg. In order to prevent overheating and wear, both the cord and the S were cooled with water during the fatigue test. Measurements of microhardness carried out during the test have shown that the metal experiences an initial increase in hardness followed by gradual softening which continues until the S fails. The sharp increase in the width of the L (310), observed in connection with the increased number of load-reversal cycles, points to considerable changes occurring in the structure of the S due to the growth of crystalline lattice distortions. An increase in the width of the L (310) is observed only up to a certain number of cycles, after which stabilization sets in. It is shown mathematically that the mean square displacements of atoms from the lattice, corresponding to a maximum change in the intensity of the L (310), attain a value of 0.05.

1. Steel--Fatigue
2. Steel--Test results

V. N.

Card 2/2

IMANKULOV, A.: Master Phys-Math Sci (diss) -- "X-ray investigation of the mechanism of steel breakdown in sign-changing deformation". Frunze, 1958.  
10 pp (Kirgiz State U), 200 copies (KL, No 6, 1959, 124)

IMAN KULOV, A.;  
KYDYNOV, M., nouchnyy setrudnik; BATYRCHAYEV, I.; LOPINU-SHEMDRIK, N.D.;  
KALBAYEV, A.; IMANAKUNOV, B.; SULAYMANKULOV, K., kand.khim.nauk;  
DUYSHEHALIYEVA, N.; AKBAYEV, A.; KAZIYEV, K.; OMOLOVIN, F.I.;  
BAKASOVA, Z.; KOVALENOK, Z.P.; SHILUKHINA, N.P.; BUGUMBAYEV, A.B.,  
starshiy prepodavatel'; BAYBULATOV, E.B., mladshiy nauchnyy  
setrudnik; FILIPPOV, N.A., mladshiy nauchnyy setrudnik; MAMBET-  
KUNOV, T., aspirant; IMANKULOV, A., aspirant; TURMAMBETOV, S.,  
mladshiy nauchnyy setrudnik; MUKHAMEDZIYEV, M.M., nauchnyy setrudnik;  
KOMURBAYEV, A.O.; PAK, L.V.; RUDAKOV, O.L.; TOKTOSUNOV, A.;  
KULAKOVA, R.I.; ASHIRAKHMANOV, Sh., aspirant; ALYSHBATEV, B.;  
SULTANALIYEV, A.; AKMETOV, K.; POLONOVA, A.P.; NIKITINSKIY, Yu.I.;  
SHAMBETOV, S.Sh.; DZHUMBAYEV, B.O., nauchnyy setrudnik; DRUZHININ,  
I.G., red.; ANOKHINA, M.G., tekhn.red.

[Papers by junior scientists of the Academy of Sciences of the  
Kirghiz S.S.R.] Trudy molodykh nauchnykh rabotnikov ~~M~~ Kirgizskoi  
SSR. Frunze, 1958. 411 p. (MIRA 12:3)

(Continued on next card)

KYDYNOV, M.---(continued) Card 2.

1. Akademiya nauk Kirgisskoy SSR, Frunze. 2. Institut khimii AN Kirg.SSR (for Kydynov). 3. Kirgizskiy gosudarstvennyy universitet (for Bugubayev). 4. Institut geologii AN Kirg.SSR (for Baybulatov). 5. Institut vedenogo khozyaystva i energetiki AN Kirg.SSR (for Filippov). 6. Otdel fiziki i matematiki AN Kirg.SSR (for Mambetakunov, Imankulev). 7. Institut zoologii i parazitologii AN Kirg.SSR (for Turmambetov). 8. Kirgizskiy meditsinskiy institut (for Mukhamedziyev). 9. Otdel pechvovedeniya AN Kirg.SSR (Ashirakhmanov). 10. Institut botaniki AN Kirg.SSR (for Alyshbayev, Sultanaliyev, Akhmetov, Pelenova, Nikitinskiy). 11. Institut istorii AN Kirg.SSR (for Dzhimbayev).

(Science--Collections)

SOV/123-59-16-63728

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 16, p 17. (USSR)

AUTHOR: Imankulov, A.

TITLE: X-Ray Test of the Fatigue of Steel, Pre-Strengthened by Polishing

PERIODICAL: Tr. molodykh nauchn. rabotnikov AN Kirg<sup>t</sup>UR. Frunze, 1958, pp 123-217

ABSTRACT: The article has not been reviewed.

Card 1/1

81808

8/137/50/000/04/12/015

18.9100

18.8200

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 4, p. 265,  
# 8583

AUTHOR: Imankulov, A.TITLE: X-Ray Analysis of Fatigue in Steel, Preliminary Strengthened by  
Grinding 14 70

PERIODICAL: Tr. molodykh nauchn. rabotnikov AN KirgSSR, Frunze, 1958, pp. 213-217

TEXT: Investigations were carried out with 45 grade structural steel specimens. Prior to the tests the surface layers of the specimens were strengthened by grinding; as a result the metal underwent considerable crystallite and elemental distortions. To determine the nature of expansion of interference lines on the radiographs, all the 3 lines, (310), (220), and (211) were subjected to harmonic analysis and not as usually only one of them. Special attention was paid to a higher accuracy in evaluating the elemental deformations of the lattice. For this purpose a specially designed camera was used, serving to obtain on one film all the "reverse" interferences at an angle  $\theta > 45^\circ$ . The radiographs were recorded by Co irradiation. After investigating the initial state of the structure, the ground specimens were subjected to cyclic load on a HJ(NU)-type machine under

Card 1/2

4

81808

8/137/60/000/04/012/015

**X-Ray Analysis of Fatigue in Steel, Preliminary Strengthened by Grinding**

various loads exceeding  $\sigma_w$ . The changes in the lattice distortion, depending on the number of cycles, were studied. It was shown that the most marked changes in width and relative intensity were observed for the (310) line; under all loads the width of this line decreased and its relative intensity increased with a greater number of cycles. This proves a relaxation of deformation in the lattice. The most intensive changes in the structure of the specimen occurred during the first 300,000 cycles. Further loading of the specimen up to a break did not entail any changes in the deformed state of the metal. The maximum change in the line width was 14-15%; the relative intensity increased by 30-32% with respect to the ground specimen. To investigate the mechanism of softening under the effect of a cyclic load the harmonic analysis was used for a specimen under load. It was established that the magnitude of the interval of uniform deformation remained constant at an increased number of cycles and was 250 Å. Analogous results were obtained for the magnitude of the domain. The magnitude of the maximum distortion of the lattice decreased hereby and maximum changes were observed during the first cycles of loading the specimen. There are 7 references.

L. O.

✓

Card 2/2

L 15488-53

ENP(q)/ENT(m)/BIS AFFTC/ASD

ACCESSION NR: AR3093753

S/0221/63/014/019/1044/1044

SOURCE: RZh. Metallurgiya, No. 51235

5/1

AUTHOR: Imankulov, A., Mukambayev, A.

5/6

TITLE: X-Ray diffraction study of the surface layer of fatigue and static breaks

CITED SOURCE: Tr. Frunzensk. politekhn. in-ta, vyp. 6, 1962, 111-116

TOPIC TAGS: fatigue break, static break, stress, brittleness

TRANSLATION: The fine structure of the surface layer of fatigue breaks (3) was investigated by X-ray diffraction study; in particular, the distorted state and block structure of the "fatigue" (or abraded) and "brittle" (static) zones were compared. B obtained after fatigue and static breakdowns were investigated. In the presence of the same stress concentrators in the samples (S) for both cases. The values of the dangerous stresses, under the action of which "brittle" zones of fatigue B were formed, were calculated on the basis of the values of the applied stress and the diameter of the "brittle" zone. The S were broken under the action of stresses corresponding to those calculated, and in static tests

Card 1/2

L 15468-63  
ACCESSION NR: AR3003753

of S prepared from St 40, they had a V-shaped end cut 1 mm deep; before the tests the S were annealed to remove preliminary distortion. The S were subjected to X-ray diffraction study in Co-radiation on a chamber of the KROS-1 type, with a semi-cylindrical cassette. The width of the interfringe lines IL was measured by the Stokes method. An independent standard of fine-grained Al was used to increase the accuracy of the measurement of relative intensity of the IL. It was shown that the width of the IL 310 for fatigue B increases almost linearly as the depth of the zone is increased in the radial direction. At the same time, all the points on the surface of the static B are distorted to the same degree. A comparison of the values of the width of the IL 310, corresponding to the "brittle" zone of a fatigue B in the zone of static B, indicates greater distortion of the latter. A separation of the effects of microdistortion and block character in various B, performed by means of harmonic analysis, showed that the zone of static B corresponds to greater microdistortions and to larger blocks than the "brittle" zone of a fatigue B. The conclusion is drawn that the central zone of a fatigue B, usually called brittle (static), is actually not identical to the usual brittle (static) zone. This zone is formed under the action of a very rapidly varying load, with alternating sign. L. Gordiyenko,

DATE ACQ: 21 Jun 63

Card 2/3

SUB CODE: ML

ENCL: 00

IMANKULOV, A., dozent; MUKANBAYEV, A., assistant

X-ray diffraction study of the surface layer of fatigue and  
brittle fractures. Trudy Frunz. politekh. inst. no. 6:111-116 '62.  
(MIRA 17:9)

IMANKULOV, Zh.

Petrographic characteristics of a cross section through the Irtysh  
crush zone in the region of Berezovskiy ore deposits. Trudy Alt.  
GMI NII AN Kazakh. SSR 4:15-37 '57. (MIRA 11:1)  
(Irtysh Valley--Geology, Structural)

SOV/124-58-5-6158

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 5, p 158 (USSR)

AUTHOR: Imankulov, A.

TITLE: Investigation of Fatigue of Coarse-grained Steel (Issledovaniye ustalosti krupnozernistoy stali)

PERIODICAL: Uch. zap. Fiz.-matem. fak. Kirg. un-ta, 1957, Nr 4, part 1,  
pp 109-117

ABSTRACT: Bibliographic entry

1. Steel--Fatigue

Card 1/1

IMANOV, A.M.; GADZHIYEVA, T.I.

Temperature dependence of relaxation time in chlorobenzene  
and bromobenzene. Uch.zap.AGU.Fiz.-mat.i khim.ser. no.1:67-72  
'59. (MIRA 13:6)  
(Benzene)

IMANOV, A.M.; SEIDOV, A.G.

Age and synchronicity of the Akera and Goris series (Lesser  
Caucasus). Dokl. AN Azerb. SSR 21 no.5:44-48 '65.

(MIRA 18:9)

1. Institut geologii AN AzerSSR.

IMANOV, A.M., inzh.

Volcanic ash as a hydraulic admixture in the production of  
cement and local binding materials. Stroi.mat. 8 no.3:36  
Mr '62. (MIRA 15:8)  
(Volcanic ash, tuff, etc.) (Building materials)

SEIDOV, A.G.; IMANOV, A.M.

Volcanic ash in Dzhebrail District. Dokl.AN Azerb.SSR 18  
no.1:43-47 '62. (MIRA 15,3)

1. Institut geologii AN AzSSR. Predstavлено академиком AN AzSSR  
A.D.Sultanovym.  
(Dzhebrail District--Volcanic ash, tuff, etc.)

IMANOV, A.M.; SEIDOV, A.G.

Lithological characteristics and conditions governing the formation  
of the fine-grained limestone of the Akera series (Western Caucasus).  
Dokl. AN Azerb. SSR 21 no.4:33-36 '55.

(MIRA 18:7)

i. Institut geologii AN AzerSSR.

TURDAKOV, Fedor Alekseyevich; IMANOV, Dzh.I., otv. red.; SOCHONBAZIVA,  
N.V., red.izd-va; POPOVA, M.G., tekhn. red.

[Fishes of Kirghizia] Ryby Kirgizi. Izd.2. Frunze, Izd-vo  
AN Kirg.SSR, 1963. 282 p. (MIRA 16:10)  
(Kirghizistan--Fishes)

IMANOV, D.

Two species *Diptychus gymnogaster* Kessler and *Diptychus sewerzowi* Kessler of the Tien Shan. Ikht. sbor, no.1: 39-56 '63. (MIRA 18:2)

IMANOV, Dzh.I.

Some data on the morphology and biology of *Phoxinus issykensis*  
Berg. from Lake Issykkul'. Ikht. sbor. no.1:76-79 '63.  
(MIRA 18:2)

IMANOV, E. D.

"Q-fever among the agricultural animals in Kirgizia." p. 135

Desyatoye Soveshchaniye po parazitologicheskim problemam i prirodnocozhivotnym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Science USSR and Academy of Sciences USSR, No. 1 254pp.

IMANOV, Engel' Danakeyevich; GOLOD, O.V., red.; CHOTIYEV, S., tekhn.  
red.

[Virus diseases of farm animals] Virusnye bolezni sel'skogo-  
khoziaistvennykh zhivotnykh. Frunze, Kirgisskoye gos. izd-vo,  
1960. 24 p. (MIRA 15:3)

(Virus diseases)

(Veterinary medicine)

IMANOV, E.D.

Distribution of Q-fever in the Kirghiz S.S.R. Zbir.mikrobiol.,  
epid. i immun. 32 no.10:96-100 O '61; (MIRA 14:10)

1. Iz Instituta zoologii i parazitologii AN Kirgizskoy SSR.  
(KIRGHIZISTAN—Q FEVER)

IMANOV, E.D.

Distribution and natural foci of Q rickettsiosis in Kirghizi-  
stan. Izv. AN Kir. SSR Ser. biol. nauk 4 no.479-63'62.

(MIRA 15:6)

(KIRGHIZISTAN—Q FEVER)

(KIRGHIZISTAN—ANIMALS AS CARRIERS OF DISEASE)

DMANOV, E.D.

Characteristics of natural foci of Q rickettsiosis in some  
regions of Kirghizistan. Inv. AN Kir. SSR Ser. biol. nauk 4  
no. 5:53-64 '62. (MERA 16:6)

(Kirghizistan—Q fever)

KAS'YANOV, A.N.; KRAPIVNER, L.M.; LUZYANTIN, D.; SHARLBIN, I.;  
KHAVCHENKO, D.; AFANAS'YEV, Ya.I.; ABUSHAYEV, I.Sh.;  
IMANOV, E.D.

Information and brief news. Veterinariia 40 no. 4:87-93  
(MIRA 17:1)  
Ap '63.

IMANOV, I.

We are doing more feeding out. Mias. Ind. SSSR 29 no.5:39 '58.  
(MIRA 11:10)

1. Bakinskij myasokombinat.  
(Swine--Feeding and feeding stuffs)  
(Cattle--Feeding and feeding stuffs)

KADYROV, A.A., kand. geologo-mineralogicheskikh nauk; IMIHOV, K.A.

Some results of a study on the Naftalan deposit of therapeutic  
petroleum. Sbor. trud. Azerb. nauch.-issl. inst. kur. i fiz.  
metod. lech. no.9:136-140 '63. (DRA 18:8)

IMANOV, Kh.G.; BOZIYAN, Kh.A.

Improving hygienic conditions in rural settlements. Gig. i san.  
22 no.7:81 J1 '57. (MIRA 10:10)  
(PUBLIC HEALTH, RURAL)

IMANOV, L. M.

Cand. Physicomath Sci.

Dissertation: "Investigation of the Wave-Guide Method for Measuring the Dielectric Constants of Liquids."

21/6/50

Moscow Order of Lenin State U. imeni

M. V. Lomonosov.

SO Vecheryaya Moskva  
Sum 71

CA VANHOY, W. P.

Measurement of the discrete constants of Rydberg atoms in the continuum were made by L. M. Joubert (McGraw State Univ.), *Vestn. Akad. Nauk SSSR No. 5, Sov. Fiz.-Mat. i Nauk. Mat. No. 5, 51-60 (1960)*.—The average-gauge method (described independently), with  $\epsilon' = (1/\lambda_1)^2 + (\theta/2\pi d)^2/(1/\lambda_1)^2 + (1/\lambda_1)^2$  and  $\epsilon'' = 2\pi d/(3d)^2(1/\lambda_1)^2 + (1/\lambda_1)^2$ , and  $\tan \delta = \epsilon''/\epsilon'$  (cf. preceding notes, *Burdian*) was applied to these electrons. The following values of  $\epsilon'$ ,  $\epsilon''$ ,  $\tan \delta$ ,  $\alpha$  (reflective losses),  $\alpha$  (absorbing coeff.), and  $m_e$  were found, in  $\lambda \sim 10$  cm., at the stated temps.: propane ( $\lambda = 22-180^\circ$ )  $(19.3^\circ)$  1.048, 0.0114, 0.0009, 1.491, 0.0000, 0.0045; propane ( $\lambda = 171-180^\circ$ )  $(171^\circ)$  1.048, 0.0114, 0.0009, 1.491, 0.0000, 0.0045; propane ( $\lambda = 181-170^\circ$ )  $(171^\circ)$  1.048, 0.0114, 0.0009, 1.491, 0.0000, 0.0045;  $C_2H_6$  ( $17.3^\circ$ ) 2.000, a note, 0.0000, 1.491, 0.0000, 0.0045;  $C_2H_6$  ( $19.1^\circ$ ) 2.000, 0.0003, 0.0110, 1.497, 0.0007, 0.0000;  $H_2O$  ( $17.3^\circ$ ) 0.200, 0.0000, 0.0110, 2.000, 0.0000, 0.0003;  $H_2CO$  ( $17^\circ$ ) 0.700, 0.0000, 0.0000, 4.491, 0.0193, 0.0000. The values of  $\epsilon'$  for  $C_2H_6$ , isobutane,  $H_2O$ , and  $H_2CO$  are in agreement with measured data and confirm the correctness of the method. The data of  $\epsilon''$ ,  $\tan \delta$ ,  $m_e$ , and  $\alpha$  are for the most part new. By *Joubert's* measurements in  $\lambda = 22.3$  and  $22.6$  cm.,  $\alpha$  for  $C_2H_6 = 0$ , as against the present  $\alpha = 0.0100$  (distinctly beyond possible exp'l. errors); this indicates that from  $\lambda = 22$  to  $\lambda = 10$  cm.  $\alpha$  increases from zero to a finite absorption. N. Then

Method 45 computing ~~standard deviation~~ standard error  
In 1969, Frantz and Pfeiffer measured the  
differences between methods of calculating the  
(C.A. 45, 46) and Burden (C.A. 49) standard  
deviations on 100 random samples of size 20  
randomly selected from normal distributions  
( $\mu = 100$ ,  $\sigma^2 = 100$ ). The exact equations are very  
complicated and difficult to derive. Approximate  
equations were derived by Frantz and Pfeiffer  
to predict the standard deviations of the 100 data, in  
the same manner as the standard deviations of  
the standard deviations from the handbook.  
 $s$  is the coeff. of variability, and  $t$  is the Student's  
t-distribution coefficient.

USS

Relation of specific gravity and viscosity of crude oil and their fractions. S. S. Kurnikoff, J. Am. Oil Chemists' Soc., 1924, No. 2806c. The density ( $\sigma$ ) and the tangent of the low angle ( $\epsilon'$ ) were measured for the crude oil (I), fractions of Surabham crude oil (II), fractions of Balakhan oil, and gasoline fractions (III). In all cases there was a linear relation between the two parameters, viz.  $\sigma' = 1.740 + 2.23(d - 0.705)$  for I, and  $\sigma' = 1.500 + 2.25(d - 0.705)$  for II and III. No relationship was found between  $\sigma$ , II, and tan  $\epsilon'$  for I, but for II and III the relationship between these three parameters could be expressed by a straight line of a slope characteristic for each of the products.

IMANOV, L.M.

Effect of concentrations on anomalous dispersion and absorption  
of a solution. Dokl. AN Azerb. SSR 10 no.12:835-841 '54.  
(MLRA 8:10)

1. Institut fiziki i matematiki Akademii nauk Azerbaydzhanskoy  
SSR. Predstavлено deyatel'nym chlenom Akademii nauk Azerbayd-  
zhanskoy SSR Kh.I.Amirkhanovym.  
(Dielectrics)

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4

11-11-11 A1  
The following document contains neither recommendations nor conclusions of the CIA. It is the property of the CIA, is loaned to your agency, and is to be returned to the CIA when no longer needed.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4"

IMANOV, L.M.

New conclusions from the theory polarization in an alternating  
electrical field. Uch.zap. AGU no.8:39-50 '55. (MLRA 9:11)  
(Polarization (Electricity))

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4"

IMANOV, L.N.

On internal fields in polar liquids. Trudy Inst.fiz.i mat. AN Azerb.  
SSR 8 '56. (MIRRA 10:5)

(Electric fields) (Dielectrics)  
(Polarisation (Electricity))

*L. I.*  
USSR/Physical Chemistry. Liquids and Amorphous Bodies. Gases. B-6

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14566

Author : I. M. Imanov

Inst : Academy of Sciences of Azerbaijan SSR

Title : On the Question of Internal Field in Polar Liquids

Orig Pub: Me'ruzeler AzerbSSR elmler Akad., Dokl. AN AzerbSSR,  
1956, 12, No 8, 531-536

**Abstract:** With a view to render Debye's theory of dielectric relaxation in polar liquids more exact, the mean field acting on a molecule is represented as  $E = E_1 + (4\pi/3)I + E' + E''$ , where  $E_1$  is the mean macroscopic field,  $I = I_0 + I_1$ ;  $I_0$  is the electrical moment of a volume unit depending on the displacement polarization;  $I_1$  is the electrical moment of a volume unit depending on the relaxation polarization;  $E'$  and  $E''$  are additional internal fields depending on displacement polarizations and orientation of particles situated within the Lorentz sphere. It is surmised that  $E' = \beta_0 I_0$  and  $E'' = \beta I_1$ . Basing on known theories (G. I. Skapavi, Fizika dielektrikov. M., 1949), it is found that  $\beta_0 = -4\pi/3 + 4\pi/9\epsilon_0$ .

Card 1/2

USSR/Physical Chemistry. Liquids and Amorphous Bodies. Gases. B-6

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618530004-4

IMANOV, L.M.; ABBASOV, Y.A.

Absorption of microwaves in alcohols. Trudy Inst. fiz. i mat. AN  
Azerb. SSR. 9:85-96 '58.  
(Microwaves) (Alcohols) (MIRA 12:2)

IMAROV, L.N.

Determining dielectric coefficients with a Q-meter in case of  
high losses. Izv. AN Azerb. SSR, Ser. fiz., mat., i khim. nauk  
no.2:29-35 '59. (MIRA 12:8)

(Dielectrics)

IMANOV, L.; KADZHAR, Ch.

Radiospectroscope with electric molecular modulation. Izv.  
AN Azerb.SSR.Ser.fiz.-mat.i tekhn.nauk no.4:49-61 '59.  
(MIRA 13:2)  
(Radiofrequency spectroscopy)

S/058/61/000/010/063/100  
A001/A101

AUTHORS: Imanov, L.M., Zul'fugarzade, K.E.

TITLE: Temperature dependence of the complex dielectric constant of chlorobenzene and bromobenzene on the 11.5-cm wavelength

PERIODICAL: Referativnyy zhurnal. Fizika, no. 10, 1961, 202, abstract 10D+1  
("Izv. AN AzerbSSR. Ser. fiz.-matem. i tekhn. n.", 1960, no. 6, 117-127, Azerb. summary)

TEXT: Dielectric dispersion of polar liquids was studied by investigating the temperature dependence of complex dielectric constant  $\epsilon^* = \epsilon' - j\epsilon''$  at a fixed frequency. Liquids were poured into a short-circuited section of a coaxial line, maintained at a constant temperature, whose input impedance was measured by the method of measuring line. The authors present the results of measuring  $\epsilon^*$  for a number of polar liquids (n-butyl alcohol, chlorobenzene (I) and bromobenzene (II)) on the wavelengths 11.5 and 19.0cm. Temperature dependences of  $\epsilon^*$  are obtained on the 11.5-cm wavelength in the temperature range from -90 to +20°C. With decreasing temperature, at melting points (-45°C for (I) and -30.6°C for (II) occurs the sharp decrease of  $\epsilon'$  and  $\epsilon''$  and relaxation time  $T$ . ✓

Card 1/2

S/058/61/BX0/C010/063/100  
A001/A101

Temperature dependence ...

Activation energies ( $U$ ) in liquid state are determined from the slope of the  $\ln \tau - 1/T$  straight line:  $1.34 \times 10^{-13}$  erg for (I) and  $1.42 \times 10^{-13}$  erg for (II). In solid state intermolecular interaction can not be characterized by one value of  $U$ , since the  $\ln \tau - 1/T$  relation is not a straight line in this case.

V. Petrov

[Abstracter's note: Complete translation]

Card 2/2

IMANOV, L.M.; ZUL'FUGARZADE, K.E.

Temperature dependence of the complex dielectric permeability  
of chlorobenzene and bromobenzene at a wave length of 11.5 cm.  
Izv. AN Azerb. SSR. Ser. fiz.-mat. i tekhn. nauk no.6:117-127  
'60. (MIRA 14:8)

(Benzene--Electric properties)

IMANOV, L.M.; KADZHAR, Ch.O.

Study of the microwave spectrum of the C<sub>2</sub>H<sub>5</sub>OH molecule. Izv. AN  
Azerb.SSR. Ser. fiz.-mat. i tekhn. nauk 2:51-53 '61. (MIRA 14:7)  
(Microwave spectroscopy) (Ethyl alcohol--Spectra)

IMANOV, L.M.; ABBASOV, Ya.M.

Thermocontroller for low temperatures. Izv. AN Azerb. SSR. Ser.-  
fiz.-mat. i tekhnauk no.5:79-82 '61. (MIRA 15:2)  
(Low temperature research) (Dielectric constants)

9.2571

S/058/62/000/006/119/136  
A062/A101AUTHOR: Imanov, L. M.

TITLE: Theory of the resonator method for measuring the complex dielectric permeability

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 33, abstract 6Zh222  
("Dokl. AN AzerbSSR", 1961, 17, no. 8, 665 - 669; Azerb. summary)

TEXT: The theory of the resonator method of measuring the complex dielectric constant, applicable to materials having high losses, is developed. The problem is solved for a cylindrical resonator in which the H<sub>01n</sub> type oscillation is excited and a sample of the investigated dielectric in form of a disk fills in a portion of the resonator and adheres to its butt. Subject to experimental determination are the resonance wavelengths and the values of the Q factor of the resonator, obtained before and after introducing the sample into its cavity. Simplified calculation relations are given that are correct for  $\epsilon \leq 3 \div 5$  and  $t \gg a^2$ .

[Abstracter's note: Complete translation]

I. Ivanov

Card 1/1

ПРЕДСТАВЛЕН АКАДЕМИКОМ АН АЗЕРБАЙДЖАНСКОГО ССР  
З. И. КАЛИЛОВЫ

S/058/62/000/006/030/136  
A051/A101

AUTHORS: Imanov, L. M., Kadzhar, Ch. O.

TITLE: Q-branch of the rotational microwave spectrum of the C<sub>2</sub>H<sub>5</sub>OH molecule

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 27, abstract 6V185  
("Dokl. AN AzerbSSR", 1961, v. 17, no. 10, 861 - 863, Azerb. summary)

TEXT: More than 100 lines of the ethyl alcohol molecule have been detected for the first time with the aid of a spectrometer with electric molecular modulation in the range of 20 - 34 Mc. Four transitions of the Q<sub>1; -1</sub>-branch have been identified from an examination of the Stark effect, and the frequencies of Q-branch transitions have been determined in the approximation of a rigid asymmetrical rotator.

[Abstracter's note: Complete translation]

Card 1/1